

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
21 April 2005 (21.04.2005)

PCT

(10) International Publication Number
WO 2005/035929 A2

(51) International Patent Classification⁷: **E21B**
(21) International Application Number:
PCT/GB2004/004263
(22) International Filing Date: 8 October 2004 (08.10.2004)
(25) Filing Language: English
(26) Publication Language: English
(30) Priority Data:
0323675.9 10 October 2003 (10.10.2003) GB
(71) Applicant (for all designated States except US): **QINETIQ LIMITED** [GB/GB]; Registered Office, 85 Buckingham Gate, London SW1E 6PD (GB).

(72) Inventors; and
(75) Inventors/Applicants (for US only): **MEDDES, Russell, Vaughan** [GB/GB]; QinetiQ Limited, Cody Technology Park, Ively Road, A7 Bldg, Farnborough, Hants GU14 0LX

(GB). **HINTON, Michael, John** [GB/GB]; QinetiQ Limited, Fort Halstead, Bldg H7, Sevenoaks, Kent TN14 7BP (GB).

(74) Agent: **TOCHER, A., J.**; QinetiQ Ltd, IP Formalities, Cody Technology Park, A4 Building, Room G016, Ively Road, Farnborough, Hampshire GU14 0LX (GB).

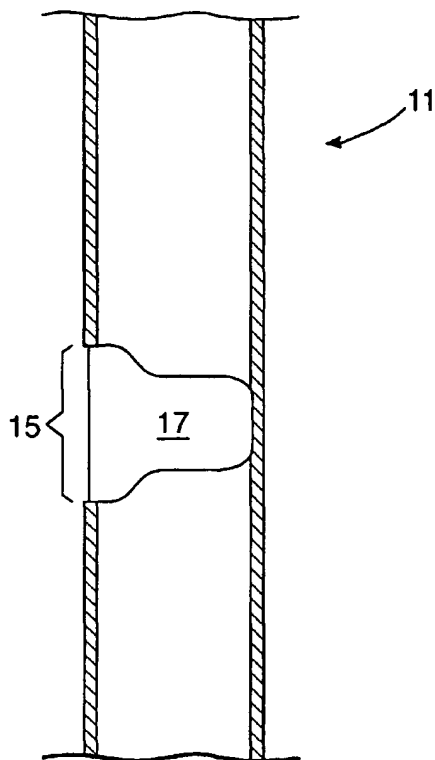
(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH,

[Continued on next page]

(54) Title: IMPROVEMENTS IN AND RELATING TO PERFORATORS

(57) Abstract: A composite material case (19') and liner (21) is described for use in a perforator (17) for completing wells such as oil, gas and water wells (1). The materials selected are intended to exhibit stability during prolonged periods at the raised temperatures and pressures present in a well (1).





GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

— of inventorship (Rule 4.17(iv)) for US only

Published:

— without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.